Fault Management Assistant (FMA), Phase I

Completed Technology Project (2012 - 2012)

Project Introduction

S&K Aerospace (SKA) proposes to develop the Fault Management Assistant (FMA) to aid project managers and fault management engineers in developing better and more cost-effective fault management (FM) for new systems. The Phase I effort involves establishing an FM approach and architecture and designing a tool that supports them. It will also include a feasibility prototype of the tool. The primary source of information for the approach and architecture is the NASA FM Handbook, which represents a collaboration of ideas from a number of NASA and non-NASA centers. SKA also intends to consider risk management, including Risk Informed Decision Making (RIDM) and Continuous Risk Management (CRM). Risk management concepts could help to support the cost-effective allocation of resources to FM options. They should also help with the balancing of costs from development, operations, and adverse outcomes from system failures. A detailed data model will help to ensure that engineers develop a complete description of FM. Specialized views of the FM information will ensure that analyses and questions can be effectively addressed during the course of FM development. SKA intends to build on its success with a risk management system it is currently building for the Human Research Project.

Primary U.S. Work Locations and Key Partners

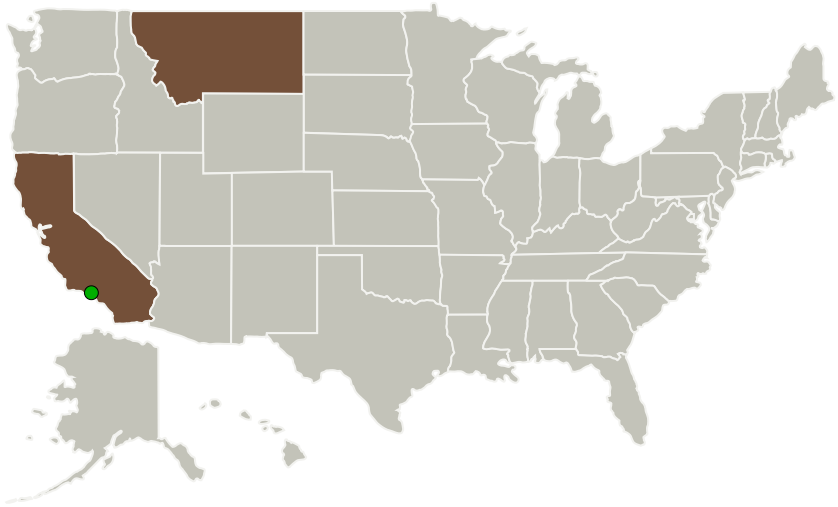

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Table of Contents

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Organizations Performing Work	Role	Type	Location
S&K Aerospace, Inc.	Lead Organization	Industry Small Disadvantaged Business (SDB)	St Ignatius, Montana
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations	
California	Montana

Project Transitions

February 2012: Project Start

August 2012: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/138156)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

S&K Aerospace, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

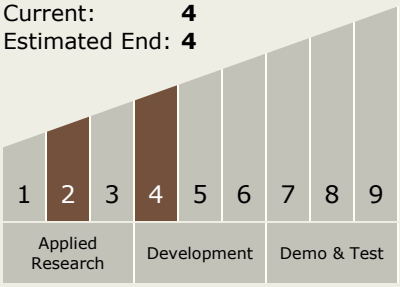
Carlos Torrez

Principal Investigator:

Carroll G Thronesbery

Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.1 Software Development, Engineering, and Integrity
    - TX11.1.4 Operational Assurance

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System